by gymnosperms and angiosperms. In spite of this change, however, the general characters of gymnosperms and angiosperms are discussed together under the heading "Phanerogamia." On account of the great differences between the groups this composite presentation is very confusing, and can hardly be justified by the fact that they both produce seeds. It would have been far less misleading, as well as clearer, had the two groups been kept consistently apart.

The thallophytes are treated as before, all of them being either algæ or fungi; and the treatment of each one of these divisions follows the old artificial method, convenient for simple presentation, but very misleading as to the facts of genetic relationship. It must be confessed that the treatment of thallophytes in this volume and in its predecessor does not represent our knowledge of the group. The account of the fungi especially is to be criticised. In the Filicineæ we note that the author bases his main divisions on eusporangy and leptosporangy, rather than upon homospory aad heterospory, as in the former volume, a change more in accord with the present conceptions of the group.

The classification of angiosperms, however, can hardly be excused on any plea. Why the classification of Bentham and Hooker's *Genera Plantarum* was persisted in, in view of all that has been done since to increase our knowledge of this group, is something of a mystery. A certain amount of conservatism is wise in a text-book, especially in an elementary one, but there is a difference between conservatism and the perpetuation of a classification which has been outgrown.—J. M. C.

The flora of Roumania.[2]

BOTANISTS unfamiliar with Roumanian will be restricted to the names of plants in their use of this book. In the presentation of a flora, however, plant names represent no small amount of information. Only the spermatophytes and pteridophytes are included, and the classification is of the old type, as the division of dicotyledons into "dialypetalous," "gamopetalous," and "apetalous" series would indicate. Probably the most startling evidence of antiquity, however, is the inclusion of Gnetaceæ and Coniferæ among the families of apetalous dicotyledons!

The work is not a descriptive flora, but a list, with full bibliography, geographical distribution, and critical remarks. Unfortunately, the descriptions of new species are in the vernacular, instead of Latin. Over one hundred pages are devoted to a discussion of the geographical distribution of the plants of Roumania, which probably is the most interesting and important feature of the book.

[2] GRECESCU, DR. D.: Conspectul Florei Romaniei. 8vo. pp. xvi + 836. Friedländer & Sohn: Berlin. 1898. *M* 12.

Certain statistics in reference to the flora are of general interest. The overwhelming preponderance of dicotyledons is shown in the following enumeration: dicotyledons 2109, monocotyledons 447, gymnosperms 11, pteridophytes 35. The largest families are Compositæ (328 spp.), Gramineæ (182), Leguminosæ (146), Caryophyllaceæ (141), Cruciferæ (139), Rosaceæ (124), Labiatæ (109), Umbelliferæ (109). Certain families are conspicuous by their poor representation, as Malvaceæ (11 spp.), Ericaceæ (14), Asclepiadaceæ (3), Polemoniaceæ (1), Acanthaceæ (1), Verbenaceæ (2). The large genera are Carex (55 spp.), Hieracium (38), Centaurea (35), Veronica (31), Ranunculus (29), Dianthus (27), Silene (27), Trifolium (27), and Galium (25). Aster is represented by but four species, and Solidago by one. Festuca is the largest genus of Gramineæ, and Verbascum of Scrophulariaceæ. Aside from the grasses and sedges, the monocotyledons form little more than 6 per cent. of the vascular flora.—J. M. C.

The flora of the West Indies.[3]

UNDER the editorship of Dr. Urban we are promised a valuable work on the flora of the West Indies. This very important region has been in the possession of so many governments that the literature of the flora is badly scattered. It is a great boon to botanists to have it brought together in compact form. The work will be of especial value to American botanists, who are largely interested in the study of the flora of Mexico and the Central American states.

This first part is by Dr. Urban himself, and is a remarkably complete and painstaking bibliography. Not only is the literature of the region presented, but under each title is a synopsis of the contribution, so that one may know just how important a publication each title represents. At the close of the part is a conspectus of the literature by islands and also by plant groups. It would seem as if any published botanical information in reference to any island or plant group can at once be discovered in this remarkable bibliography.

The work will be issued in parts at indefinite intervals, each part containing about 160 pages, and three parts forming a volume. The subscription price will vary from $2 to $3 for each part.—J. M. C.

Nature study.

THE increase of interest in nature study has called forth a large number of publications intended to assist teachers and pupils in this work. Many of these have been little more than compilations of fantastic stories about natural

[3] URBAN, IGNATIUS: Symbolæ Antillanæ seu fundamenta floræ Indiæ occidentalis. Vol. I. Part I. Bibliographia Indiæ occidentalis botanica. 8vo. pp. 192. Fratres Borntraeger: Berolini. 1898. *M* 10.80.